

Information Item

Date: August 10, 2021

To: Mayor, Mayor Pro Tempore, and Members of the City Council

From: Damon Dequenne, Assistant City Manager
Aaron King, Director of Planning and Development Services

Subject:
Information on Subdivision Street Creek Crossing Requirements in Peer Cities

Strategic Focus Area: Livable Neighborhoods

Strategic Objective: No

Strategic Plan Action Item: No

Key Work Item: No



The issue of when street connections are required to be made across perennial creeks as part of new development was discussed by City Council during its recent consideration of the Doral Drive/Reynolda Road Interchange Plan. One of the recommendations of this plan was to provide a street connection between the existing Long Creek Village development and proposed development adjacent to the Doral Drive interchange. However, such a connection would require crossing Muddy Creek, adding significant expense and complication to the development process. Such a connection would not be required under current UDO standards. Recognizing the importance of such connections, City Council discussed whether requiring connectivity, even where creek crossings are involved, would be a policy worth discussing. City Council directed staff to research when such crossings are required in peer cities.

As noted previously, developers have not typically been required to make public street connections across creeks in Winston-Salem, given the significant costs and complex environmental approvals (from the NC Department of Environmental Quality and Army Corp of Engineers, for example) for such crossings.

Recent NCDOT State Transportation Improvement Programs (STIPs) provide an idea of the costs associated with such crossings. The table below shows details for nine comparable two-lane creek crossing projects initiated between 2017 and 2020.

Road(s)	Location	Creek(s)	Estimated Cost	Project #
Watkins Ford Rd (SR 2624)	Forsyth County	Abbott's	\$870,690	17BP.9.R.65
Old Greensboro Rd (SR 2377)	Winston-Salem	Salem	\$1,400,000	BP9.R001
Hastings Hill Rd (SR 2667)	Winston-Salem	Kerner's Mill	\$1,584,000	B-4511
Glade St	Winston-Salem	Peters	\$462,000	B-2882
Dull Road (SR 1170)	Forsyth County	Ellison	\$491,367	17BP.9.C.2
Tuttle Rd (SR 1639) & Priddy Farm Rd (SR 1893)	Forsyth County	W. Fork Muddy/ Muddy	\$912,953	17BP.9.R.64
Yadkinville Rd (SR 1525)	Winston-Salem	Muddy	\$1,800,000	17BP.9.R.43
Old Salisbury Rd (SR 3011)	Winston-Salem	S. Fork Muddy	\$2,000,000	BP9.R009
Novack St	Winston-Salem	Mill	\$500,000	B-5006

If creek crossings are required, many proposed residential developments may no longer be economically feasible, unless the costs of a crossing can be spread over several hundred lots. Financial impacts aside, the lack of sufficient street connectivity has led to many neighborhoods in the vicinity of perennial creeks (e.g. Muddy Creek, Peters Creek, Mill Creek) having only one direction (opposite the creek) in which to gain vehicular access to thoroughfares connecting to other parts of the community. Traffic safety issues, street congestion, and emergency response times often increase as more residential development occurs without adequate street connectivity.

With the considerations noted above in mind, the following is a brief summary of how peer cities address street connectivity through ordinances, exemptions, public street access requirements, and municipal financial participation.

Ordinances and Standards

Winston-Salem and its peer cities have the authority to deny building permits unless the subject property is located on a lot that abuts or has access to a public street. Streets are usually created or extended as part of the subdivision process and help implement the City's Thoroughfare and Collector Street Plans. In addition to providing frontage for new lots, communities require public streets to be "stubbed" to adjacent properties to provide future access to those properties or to connect to existing street stubs adjacent to the property.

While the number of street stubs required of new development varies, all our peer cities generally require at least one street connection along each of the four sides of a property. A variety of other ordinance regulations also encourage street connectivity, as detailed in the table below.

Subdivision Ordinance Requirements affecting Street Connectivity						
City	Thoroughfare /Collector Street Plan Conformance	Maximum Block Perimeter (ft.)	Maximum Block Length (ft.)	Maximum Cul-De-Sac Length (ft.)	Connectivity Ratio (# links/ # nodes)	Stub Street Requirement*
Winston-Salem	Yes	N/A	N/A	800	1.2	1/each of 4 sides
Durham	Yes	N/A	N/A	800	1.4	1/1,000-1,400 ft. for each of 4 sides
Greensboro	Yes	2,400-4,800	600-1,200	650-800	N/A	1/each of 4 sides
High Point	Yes	6,000	N/A	1,200-1,600	N/A	1/each of 4 sides
Charlotte	Yes	N/A	600-1,000	400-600	N/A	1/600-1,000 ft. for each of 4 sides
Raleigh	Yes	2,000-8,000	N/A	300-1,000	N/A	Must meet maximum block perimeter standards

**All stub street requirements subject to waivers and exemptions noted below.*

Exemptions or Waivers for Stubbed Streets

While Winston-Salem and its peer cities promote street connectivity via the regulations noted above, these cities also provide exemptions for situations where connectivity is impractical. Subdivisions are generally designed to avoid costly street construction by locating streets in areas of the site away from creeks and steep slopes. Winston-Salem and its peer cities all have exemptions for stubbing to adjacent properties if natural impediments exist such as:

- very steep slopes;
- perennial creeks/streams; or
- wetlands; municipal water supply watershed critical areas; and floodplains.

Exemptions also exist for the presence of manmade features such as:

- cemeteries;
- historic landmarks;
- railroads;
- controlled access highways;
- churches, hospitals, schools; or
- a lotting configuration on adjacent property that does not allow for a stubbed street.

Public Street Access Requirements

Winston-Salem and its peer cities require a minimum number of access points to adjacent public streets. The number of access points is often based on the number of residential lots/ multifamily units in a development and ensures adequate access for fire department and emergency response. Public street access requirements for Winston-Salem and its peer cities are shown below.

City	Minimum Number Public Street Access Connections		
	One	Two	Three
Winston-Salem*	30 lots/units or fewer	31 or greater lots/units	N/A
Durham	90 lots/units or fewer	91 or greater lots/units	N/A
Greensboro	Less than 200 lots/units	200 or greater lots/units	N/A
High Point	50 lots/units or fewer	51-150 lots/units	151 or greater lots/units
Charlotte	Two or more public street access points, unless determined unfeasible		
Raleigh	Minimum 1 public street access, plus additional street access required by maximum block perimeters		

*Winston-Salem Fire Department requirement rather than subdivision ordinance standard.

Charlotte and Raleigh discourage public street access to thoroughfares if access is available on side streets. Communities also rely on Traffic Impact Analyses in determining the appropriate number of public street access points. Environmental constraints, such as perennial streams and creeks, may reduce the number of required access points.

Municipal Financial Participation

Given the significant costs of crossing perennial creeks, staff asked peer cities whether they had any policy for financially assisting developers with constructing such crossings. None of these cities have any program or policy in place, and their staff could not recall any situation where the community assisted developers with such costs. In the experience of peer cities, if the costs of creek crossings are too great for the developer to absorb, a parcel will remain undeveloped.

Recommendations

Based on the research above, staff suggests City Council consider the following recommendations:

- 1. Consider financially assisting developers with critical creek crossings.** While peer cities were unable to provide any examples of ways to reduce the financial burden of creek crossings, High Point and Raleigh do have programs in place for reimbursing development costs associated with increasing street widths or installing water/sewer/stormwater infrastructure in designated areas. A similar program could be developed where the City of Winston-Salem could provide financial assistance for developer-constructed road crossings of designated creeks in critical locations. City transportation staff could assist City Council in determining which creek crossings are critical.
- 2. Provide more-specific UDO criteria determining when exceptions to street connectivity requirements can be made.** An ordinance amendment could be drafted to more clearly define when exemptions to the street connectivity requirement could be granted. For example, it may not be reasonable to expect a 30-lot subdivision to absorb the cost of a major creek crossing, but such a crossing may be feasible for a 300-lot project (especially if City participation is possible).

Staff will be available to present this item at the May Community Development/Housing/General Government Committee meeting. Please let me know if further information is needed regarding this topic.